

contains the local particulars of the next total eclipse of the sun, which takes place on May 17, 1901. From inquiries which have been made, it appears that the positions selected in the eastern portion of the shadow track are those which are most easily accessible. These are all situated in the Malay Archipelago, with the exception of Mauritius. The durations of totality at the various stations recommended are as follow:—

Station.	Long.	Lat.	Duration of Totality.
			m. s.
Mauritius ... ..	57 33' 2 E.	20 6 S.	3 35
Padang, Sumatra ...	100 20' 5	0 58	6 14
Pontianak, Borneo	109 20	0 1	5 40
Fort Victoria, Am- boyna ... ..	128 11	3 41	4 15
Port Moresby, New Guinea ... ..	147 9	9 28	3 19

The elements on which the computations are based are those published in the *Nautical Almanac* for 1901. A map of the region is included in the circular, by the aid of which other stations than those specified may be selected if desired.

ANCIENT RECORDS OF METEOR SHOWERS.—In his report for the year 1899, M. D. Eginitis, director of the Athens Observatory, gives a short account of some ancient records of meteor showers which appear to be suggestively consistent with the constants of several conspicuous showers of present times.

A shower was mentioned by the patriarch Nicephore as lasting all night, but no exact date is given. From the historical statements given, however, M. Eginitis traces the epoch as the autumn of the year 752. This would suggest it being a shower of Andromedes, and, in fact, counting from the conspicuous falls of Bielids in 1852, 1872 and 1892, the twenty years interval corresponding to three periods of the comet, it is seen that the year 752 would be in such a series. He thus considers this apparition of 752 to have been a Bielid shower of Andromedes.

Seven years previously to this, in 745, the appearance of a great comet was recorded by Théopane and Cédrius.

It may be, however, that the showers of 1852 and later are not from the same swarm as the shower of 752, but that they are the products of slow but continual disintegration of the comet.

Another passage in Cédrius describes a shower in 558, also occurring in the autumn. Apparently connected with this is the observation of a comet in 518, the interval being almost six times the periodic time of Biela's comet, so that here there would appear evidence of a second series of showers, connected with Biela's comet by similarity of period, but occurring at different epochs from the first series mentioned. The modern showers of 1798 and 1838 would fall in this second group.

Théopane in 763 and Domno Alberico in 1122 record falls of shooting stars in the month of April, and these would correspond to the present showers of Lyrid meteors.

A shower chronicled in April 1094 by Alberico cannot be at present connected with any known radiant.

## A MODERN UNIVERSITY.<sup>1</sup>

### II.

THE constitution of the new University of Birmingham is on the simplest and broadest lines, and appears to offer scope or great developments in the future, some of which can hardly be foreseen at the present time.

The movement for the foundation of a university arose out of the Mason Science College, founded by Sir Josiah Mason in 1875, just a quarter of a century ago; though it was not till five years later that the college was open to receive students. In 1892 an amalgamation was effected with the Queen's College Faculty of Medicine, and in 1897 the whole was incorporated as one body under the Mason University College Act. The Senate consists of twenty-seven members, and there are a large number of lecturers and demonstrators; but that it should have already developed into a university is a very remarkable fact, and a sign of great enterprise and energy on the part of the community among which the college has done its work; indeed, it is unlikely that this rapid development could have taken place unless it had been fortunate enough to secure the interest and personal influence of a prominent Minister of the Crown.

<sup>1</sup> Continued from p. 186.

The Faculties of the University already provided for are science, arts, medicine and commerce, but provision is made for the addition of other faculties by Statute later on. Each faculty holds its own meetings, and is presided over by its elected dean.

The assemblage of professors constitutes the "Senate," as usual. The "Council," or acting governing body under the Court, consists of the deans of the faculties, five nominees of the Birmingham City Council, twelve members appointed by the Court of Governors, and lastly of the chief officials of the University, *i.e.* the Chancellor, the Vice-chancellor, the Pro-Vice-Chancellor, the Treasurer, the Principal, and the Vice-Principal. The Court of Governors is a very widely representative body, consisting of all the chief officials in the neighbourhood of Birmingham, the head-masters of the principal schools, ten of the Members of Parliament for the boroughs and counties in the Midland district, a nominee of each of the other English Universities (including the University of Wales), a member from each of the Midland County Councils, five nominees by the Birmingham City Council, certain named life governors and donors of certain sums, all the professors of the University, six persons elected by the Guild of Graduates, three by the Guild of Undergraduates, and eleven members appointed by the voluntary elementary schools of the neighbourhood.

It is hardly possible to imagine a wider basis of representation than the one adopted for the Court of Governors of this University.

Among the executive officers there is to be a Secretary, and also a Registrar appointed by the Council; the Vice-Principal and one of the deans, *i.e.* the Dean of the Faculty of Medicine, are likewise to be appointed by the Council. There is to be a Principal appointed by the Crown; there is also to be a Vice-Chancellor elected by the Court of Governors, and there is to be a Chancellor; the first Chancellor being the Right Hon. Joseph Chamberlain, and the first Vice-Principal Prof. R. S. Heath.

Concerning the objects to which all this machinery will be applied, no doubt a good deal will at the beginning be conducted on lines with which we are more or less familiar, though there appears to be no desire to imitate other universities, but rather a hope that it may be possible to strike out on a new line, and develop a broad system of national education suited to modern times, and to the practical requirements of life in an active city of the British Empire.

To this end a committee of inquiry was formed, and a deputation sent to various colleges and universities, chiefly in the United States and Canada, in order to study what was going on there. This body reported to the management committee connected with the establishment of the University of Birmingham, and their report constitutes an important and informing document. In it they say that:—

"Their object has been the teaching of science in its application to industry, and in the first place to the industries of the city and district, coupled with such technical instruction in handicrafts as will enable the students to complete their course in the university itself."

They classify the industries of the district as follows:—mining, metallurgy, engineering, and chemical trades, and non-metallic trades.

They recommend that there shall be chairs of mining, metallurgy, engineering, and applied chemistry. They further recommend that the students should be put through a very thorough course, consisting largely no doubt of a study of mathematics, physics, pure chemistry, and geology, as taught at present, but finishing with a specifically technical course, making it four years in all. A shorter course would likewise be permissible, but it appears would not lead to a degree.

They say the students should be divided into two classes, *viz.*:—

(1) "Those taking a four-years' course in mechanical (including electrical), civil or mining engineering, metallurgy or applied chemistry, who would study for a master's degree in their respective subjects. At the conclusion of this course facilities would be offered for further study and research to those who could give the time or should wish to proceed to the doctor's degree."

(2) "Those taking a course of from one to three years in any of the above subjects, with a view to the practical application of the teaching to a particular industry. With such students, less time could be devoted to theory, as attention would have to

be concentrated on methods and results. Their work in these courses would be recognised by class certificates."

In addition to the professor of each technical subject there will be an assistant-professor and several instructors, each competent in a particular branch.

They indicate a block plan for the buildings required, their size and their suggested arrangement. These plans suppose a front of two storeys, containing the lecture rooms, library, museum, &c., and at the back a series of blocks, all on the ground floor, and intended for the various laboratories and workrooms which have been described in the report. These could be built to provide accommodation in the first instance for 200 day students, increasing afterwards to 500.

"The space occupied by these buildings, including the necessary yards and roads, a gymnasium, a director's house, and rooms for a caretaker, is about six acres. In view of the future of the university, a total area of not less than twenty-five acres should be provided."

The committee recommend that this land be taken in the outskirts of the city on a main line of, by preference, both rail and road, and they estimate the complete cost as follows:—

Twenty-five acres of land and buildings ...	80,000/.
Machinery, apparatus, and instruments ...	66,000
Fittings, utensils, lighting, and heating ...	5,000
Technical library ... ..	1,500
Museum ... ..	500
Director's house ... ..	2,000
Total ... ..	155,000/.

They estimate the cost of maintenance (including the staff) at 10,450/ per annum.

Thus the scheme is a very large one, but it is estimated that the fees from students will ultimately do a good deal towards covering the cost of maintenance.

The committee do not advise night classes, and in this we think they are wise; they consider that the already existing municipal technical school either does provide or might provide for the need these night classes are intended to meet, and they are sure that the curriculum they propose will absorb all the energies of the teaching staff when employed in the daytime only. They do not clearly indicate the training they propose for mining engineers, but for mechanical, electrical, and civil, they draw up a course the same in the first two years; in the third year the mechanical and electrical branch off on the one hand, and the civil on the other, while in the fourth year there is more specialisation, but not much distinction drawn even then between mechanical and electrical.

So far, the lines indicated are not very different from what is becoming customary, but they propose to attempt a Faculty of Commerce. Now the establishment of a great commercial school on serious lines is a new experiment, and has not yet been successfully tried anywhere. They propose a capital expenditure of 6000/ on class-room accommodation, together with books and apparatus, and an annual expenditure of 2200/ on a professor, an assistant professor, an instructor, and some special lecturers. We think that they will find that the addition of certain other chairs will be essential if a commercial faculty is to take its proper position, especially political economy and geography, probably law also. We do not see that any provision has been made for these three subjects. We regard a thorough course in political economy as essential to the well-being of a commercial faculty; and geography, treated completely, we regard as a much more important subject than the committee at present seem to realise.

The advisory committee enter further into the difficult question of commercial education. They say that modern languages should be learnt when quite young; which indeed is very true, but it seems to us a counsel of perfection. In practice we feel sure that modern languages would certainly have to form a considerable part of a scheme for commercial education.

Commercial arithmetic, they say, does not go far enough; and that also is extremely probable; but a training in elementary mathematics, beyond the immediately practical stage, would be of great advantage to the commercial man in many indirect ways.

As to geography, the committee think that the information is best obtained as wanted from books of reference and consultation with one of the touring agencies; but in this we entirely

differ from them. To make proper use of books of reference some previous knowledge of the subject is necessary; and the earth, especially the portion accessible to trade, is not so big but that an adequate knowledge concerning its chief features should be acquired and possessed by a competent man of business, without having to refer constantly to others.

The committee, however, go on to recommend that, in addition to these things, instruction shall be provided in business organisation, the theory and principles of trade unions, associations, trusts, combinations and rings; that instruction shall be given in commercial law, likewise in accountancy, in shipping and railway practice, and in banking and exchange; and they say very wisely that "such knowledge as the foregoing is what is required in business, and is usually only learnt bit by bit at a heavy cost, so that the man of business has generally reached the limits of his working life before he has completed his commercial education, and owing to the want of a codified system business men continue from generation to generation to renew the mistakes of their predecessors, and to repeat their experiments, and after much tribulation to re-arrive at their methods, their rules and their conclusions."

They further indicate that this commercial education is not to be taken as a substitute for a more general education, but is to be a supplement to it. They say, "Students in the commercial education course should not be allowed to enter at too early an age. Twenty is quite early enough; and it would be most desirable that they should have taken a degree in Arts before studying for the commercial degree, and certainly the highest commercial degree should only be given to those already in possession of an Arts degree."

They hope (again in this case) that the fees from students may make it largely self-supporting, but we incline to think that they estimate the fees from students too highly. If they fix the fee for each student at 50/ a year, we fear that the expense will exclude a considerable number of those who might otherwise derive special benefit from the course proposed.

They realise that this attempt at a thorough commercial education is a new experiment, and one which, if successful, may have most important consequences on the commercial future of the country, and they conclude as follows:—

"There is no instance elsewhere of any course at once so complete and so valuable; there is not even, so far as your committee know, any university in the United Kingdom where there is a separate Faculty of Commerce, and as there has not yet been any effort to treat the subject with the thoroughness now proposed, so there is no means of estimating the extent to which advantage would be taken of such teaching. Your committee, however, point to the fact that a Faculty of Commerce so organised and based on the actualities of business experience, would at the present moment stand alone, and would therefore attract to the Birmingham University all who feel the need of such an education, and would also to a much greater extent create a new demand."

There is no doubt, however, that the Arts Faculty in general requires strengthening in many ways, the addition of new chairs being one of them; and unless this is done as soon as opportunity offers, the scientific and technical training proposed will not acquire its proper university status. The training of the students must not be limited to their immediate fancied needs; neither students nor their parents are the best judges of what is in the long run really desirable. A much broader training must be given in the university of the future than has been given in the university of the past. Depth without breadth has been the feature of some Honours schools; shallowness with athletics has been the feature of some Pass schools. The university of the future must mend all this, and secure that all its graduates without exception have had a broad training in many subjects—subjects lying in different departments of human knowledge; so that they may be really educated and not merely informed. As to the depth possible, that will vary with individual powers, and the standard must not be made impossible for the average man; but to give the average man a training in some highly specialised practical department, and then turn him out on the world as a university graduate, is not what we expect or hope for from the new university. Such students there will be, doubtless, and they may well receive special diplomas each in his own branch, but they should not be graduates.

Some other students there will be, who, in addition to a broad and liberal culture, have the power of going deeply into some one subject, and these should receive degrees with honour;

but both these classes will be exceptional. For the average man a broad training in many subjects, well taught and under the most favourable conditions, is what is wanted, in order to leave him adaptable and efficient in the subsequent uncertain calls of actual life; and such men should constitute the bulk of the pass graduates, and be the backbone of the new scheme.

Annexed to the report is an account of the visit of the committee's deputation to American and Canadian Universities, and the information thus obtained and summarised is of the greatest interest and importance.

A deputation of the Advisory Committee of the University of Birmingham paid a visit to colleges and universities in the United States and Canada at the end of last year, on the suggestion of Mr. Carnegie, who, it is understood, is willing to provide a good round sum for the establishment of an adequate scientific and technical college on this side of the Atlantic. An appendix to the committee's report contains a statement of the condition of affairs which they found in America.

They find that "almost the whole of the students enter on a full four-year course of instruction with a view to graduation. The student on entrance is required either to pass an examination or to present satisfactory evidence that he is qualified to take up the course on which he enters. The entrance examination is not very different, as a rule, from the matriculation examination of the University of London. It is more advanced in mathematics, but probably easier on the literary side."

The working session ranges between thirty-three and thirty-eight weeks; but outside this there are summer excursion classes, and summer workshop classes usually of about one month.

One remarkable difference they find in the system of lecturing. With us, college lectures form a connected course, almost dispensing with the necessity of a text-book, except for supplementing and extending information. It has often seemed to us that such lectures are perfectly right if the student already partially knows the subject; it then systematises and organises and more firmly impresses his knowledge; but if, as too often happens, a student comes to the lecture-room ignorant of the subject, he cannot derive proper benefit from a course of lectures; he cannot discriminate between the essential and the comparatively unessential; he cannot without practice watch experiments and take notes at the same time; he cannot always keep his attention fixed: we have noticed that students who have recently been to a British secondary school, one of the large public schools or indeed any other, cannot as a rule keep their attention long fixed on anything. There are exceptional students, and there are exceptional schools; but as a rule what they chiefly learn in class work at school is a habit of inattention to what is going on, the average procedure in class being too slow for the quicker boys, too rapid for the slower ones, and too dull for all. This habit of inattention, once firmly acquired, remains with them through the first year and sometimes through the second year of their college life, and they are all the time a perfect curse to any who wish to get on, and who are becoming of an age to realise some of the responsibilities and opportunities of life.

For the college lectures in America it would appear that "a large amount of home preparation and work is required. The student is expected to read up in a text-book the subject matter of the lectures beforehand, the lectures in many cases consisting of exposition and experimental illustration of the text-book. Recitation classes are held in connection with each lecture, in which individual students are questioned on the text-book or lectures, or asked to demonstrate on the blackboard before the rest of the class."

Literary studies are not wholly neglected by the students of science, nor is attention to them confined to the needs of the entrance examination. In addition to the requirements of the entrance examination in languages, grammar, and history, a certain amount of time is given by the science students, especially in the first two years, to what appear to be often called "culture subjects," such as literature, composition and rhetoric, history, political economy, French and German.

But the most important and much-to-be-imitated portion of the system adopted in America, is that whereby the credit given for work does not depend solely on a concluding examination, but is made really to represent the aggregate work of the whole session. There is a Paper examination, and that is quite right, for it is eminently desirable that a student should be able to express what he knows accurately and on demand. Quite half the credit ought to be awarded to this faculty, but not all; the

remaining half should be awarded for work in class-room and laboratory.

In the States there are no practical examinations as with us. Proficiency in laboratory work is accredited by assigning marks for attendance and for excellence of laboratory and manual work throughout the session. We believe that this system is very successfully in force at such places as the City Guilds Central Technical College at South Kensington, but we have not yet heard of its much to be desired introduction into universities in this country. There is no doubt that it would have the best effect on both student and demonstrator; and it would have the further advantage that the troublesome practical examinations, especially those in the senior stage, when they become rather farcical, could be dispensed with.

Another desirable innovation is thus expressed:—"The right of dismissal at any stage is maintained and used. Any student who shows that he is unable or unwilling to keep up with the work is excluded by the Faculty from the graduation course. He may be allowed to take on special courses, but usually he is dismissed from the institution. The system has been devised to keep, and succeeds in keeping, the students continuously at work, and the result of the process of exclusion in the earlier stages is that nearly the whole of the final classes are successful in graduating."

One of the most important arrangements in America is the large provision made at some of the institutions for post-graduate work. Only a small proportion of students are able to spare time for it, but it is encouraged by affording every facility for study and research to the post-graduate; and graduates from one institution frequently work as post-graduates at another. This system of interchange between universities, which already obtains largely in Germany, is surely to be desired in this country, especially in post-graduate stages, where specialisation naturally and properly sets in.

Over-specialisation in undergraduate stages is, we believe, to be deprecated. A certain amount of general knowledge, both literary and scientific, is needed, and should be acquired by all.

The committee found that in America the proportion of staff to students is much greater than with us; and they further found—what is a matter of great importance—that the subdivision of subjects is, as in Germany, likewise carried much further; so that, for instance, every important branch of engineering has its own professor, with perhaps an assistant professor, and certainly with instructors; and no attempt is made, as with us, to place the whole of a gigantic scientific subject in its higher stages under the control of one man.

We observe that in the fundamental subjects of chemistry and physics the general laboratory arrangements and the scope of teaching appear to be much the same in America as in this country. The laboratories are, however, as a rule more spacious, the equipment in apparatus is on a larger scale, greater facilities are given for research, and the size of the laboratories allows most of the physical apparatus to be kept in position—different rooms being used for different subjects. In the more important laboratories many rooms are provided for original research, which is carried on by the staff and post-graduate students. At Cornell there is a special laboratory for physical chemistry. At several colleges there is a department of applied chemistry, through which all students pass who are graduating in chemistry. This is excellent, and tends to make the knowledge much more real and practical. Chemicals are made, instead of being merely purchased; "the course is short, and generally consists in the production of pure chemicals from commercial articles on a scale in which many kilogrammes are dealt with. The processes are made to resemble, as far as possible, those of manufacturing practice."

In civil engineering we observe that "the work in surveying is very thorough, and includes field work throughout the year, together with a summer course. There is usually an extensive stock of theodolites, levels, and chains, so that each student in the field has his own instrument. During the two last years particular attention is devoted to bridge construction, the student preparing complete drawings and stress sheets in accordance with the practice of the leading railway companies."

Less hostile feeling to academically bred apprentices would be felt in this country if these practical features could be imitated.

In mining engineering, a summer excursion class is sometimes formed to spend some weeks in a mining district, where facilities are given to inspect the actual processes of mining.

Great importance is assigned to engineering-laboratory work,

and the whole ground of the engineering lectures is provided for in the equipment of the laboratories. The machines are large in number and in capacity, so that every student performs experiments on an adequate scale. The work is chiefly pursued in the third and fourth years, and occupies from four to six hours weekly. In some laboratories there are full-size locomotives mounted, so that running tests can be made, and special courses are arranged for those who wish to take up the mechanical side of railway practice. Facilities are given by the railroad companies for testing under the conditions of actual running.

The shops gave the impression of being thoroughly practical, and on such a scale that the knowledge acquired there by the student would be of use in his subsequent professional life.

The greater size of the Continent is, perhaps, partially responsible for the following paragraph in the committee's report, although really if education were properly appreciated in this country, our island is large enough for us to follow the example. The paragraph we refer to looks very attractive to those whose work in this country lies in colleges cramped in the middle of great cities. It runs as follows:—

"We were very much struck with the amount of ground occupied by the colleges, each building standing in its own grounds, so that it is well lighted on every side. Usually there is a large entrance hall, a fine staircase, and wide corridors leading to class-rooms and laboratories. The floor space in the laboratories is generally very much greater than with us. The apparatus, instead of being huddled away in dark corners, is set out and classified as if for exhibition, while the machinery occupies a space worthy of its importance."

We observe also that every college possesses departmental libraries and reading-rooms available for the students, in addition to the large central library and reading-room.

The social aspect of university life is not forgotten, and the following glorified edition of a student's union is well worthy of imitation:—

"The University of Pennsylvania at Philadelphia possesses in Houston Hall a fine building given to the University by an old graduate, in memory of his son, who was also a graduate. It is a club-house for the students, any student becoming a member for two dollars per annum. In the building are reading billiard and smoking rooms, a luncheon-room, a gymnasium, a swimming bath, and rooms for college societies. The hall is entirely and very well managed by the students. It is regarded by the staff as having a most excellent influence on student life."

In concluding this part of the general report of their American visit, the committee make a well-deserved comment, which we will presently quote, for nothing more splendid in the direction of educational endowment has been seen in our times than the magnificent sums which wealthy American citizens are willing to place at the disposal of university authorities. They do, indeed, realise, as we do not, or at least have not yet, the immense, the super-eminent, importance of real education and knowledge, to a country and an empire which has to hold its own against ever-increasing competition, and constantly to make its way in fresh uncivilised regions. The following are the concluding general remarks:—

"We desire to express our admiration alike for the high ideal of scientific education, which is the aim in American universities, and for the enthusiasm in all classes which renders it possible to approach so near that ideal. Everywhere we found evidence that the wealthier citizens realise the importance of university education, and encourage the universities by generous gifts; and everywhere, both by teachers and by students, these gifts are being used for higher learning and research."

### THIRD INTERNATIONAL CONFERENCE ON A CATALOGUE OF SCIENTIFIC LITERATURE, LONDON, JUNE 1900.

#### LIST OF DELEGATES APPOINTED TO ATTEND THE CONFERENCE.

*Austria*.—Prof. E. Weiss (Kaiserliche Akademie der Wissenschaften, Vienna); Prof. Karl Toldt (Universität, Vienna).

*France*.—Prof. G. Darboux (Membre de l'Institut de France); Dr. J. Deniker (Bibliothécaire du Muséum d'Histoire Naturelle, Paris); Prof. H. Poincaré (Membre de l'Institut de France).

*Germany*.—Prof. Dr. F. Klein (Geheimer Regierungs-Kath,

Universität, Göttingen); Prof. Dr. B. Schwalbe (Direktor, Real-Gymnasium, Berlin); Dr. F. Milkau (Oberbibliothekar, Universität, Berlin).

*Greece*.—Mons. de Metaxas (Chargé d'Affaires for Greece)

*Hungary*.—Dr. August Heller (Bibliothekar, Ungarische Akademie, Buda-Pesth); Dr. Theodore Duka (Hon. Member of the Hungarian Academy of Sciences)

*Italy*.—Prof. Giacomo Ciamician (R. Università, Bologna); Prof. Raffaello Nasini (R. Università, Padua).

*Japan*.—Prof. Einosuke Yamaguchi (Imperial University of Kioto).

*Mexico*.—Señor Don Francisco del Paso y Troncoso.

*Norway*.—Dr. Jörgen Brunchorst (Secretary, Bergenske Museum).

*Switzerland*.—Dr. Jean Henri Graf (President, Commission de la Bibliothèque Nationale Suisse, Berne); Dr. Jean Bernoulli (Librarian, Bibliothèque Nationale Suisse, Berne).

*United Kingdom*.—Representing the Government: The Right Hon. Sir John E. Gorst, Q.C., M.P., F.R.S. (Vice-President of the Committee of Council on Education). Representing the Royal Society of London: Sir Michael Foster, K.C.B., Sec. R.S.; Prof. Arthur W. Rücker, Sec. R.S.; Prof. H. E. Armstrong, F.R.S.; Sir J. Norman Lockyer, K.C.B., F.R.S.; Dr. Ludwig Mond, F.R.S.; Dr. T. E. Thorpe, For. Sec. R.S.

*Cape Colony*.—Sir David Gill, K.C.B., F.R.S.; Roland Trimen, Esq., F.R.S.

*India*.—Lieut.-General Sir Richard Strachey, G.C.S.I., F.R.S.; Dr. W. T. Blanford, F.R.S.

*Natal*.—Sir Walter Peace, K.C.M.G. (Agent-General for Natal).

*New Zealand*.—The Hon. W. P. Reeves (Agent-General for New Zealand).

*Queensland*.—The Hon. Sir Horace Tozer, K.C.M.G. (Agent-General for Queensland).

#### ACTA.

*Opening Meeting, Tuesday, June 12, at the rooms of the Society of Antiquaries, at 10 o'clock.*

(1) Prof. Darboux moved that Sir John E. Gorst be the President of the Conference. The motion having been carried unanimously—

(2) Sir John Gorst took the chair and welcomed the delegates.

(3) On the motion of Sir M. Foster, seconded by Prof. Darboux, it was resolved that Dr. F. Milkau be the secretary for the German language; that Dr. Jean Bernoulli and Dr. J. Deniker be the secretaries for the French language; that Prof. Giacomo Ciamician be the secretary for the Italian language; that Prof. H. E. Armstrong be the secretary for the English language.

(4) That the secretaries, with the help of shorthand reporters, be responsible for the *procès verbal* of the proceedings of the Conference in their respective languages.

(5) Sir Michael Foster read out the names of delegates appointed to attend the Conference.

(6) On the motion of Sir Michael Foster, it was resolved—(i.) That the meeting adjourn at 1 p.m., and meet again at 2.30 p.m.; (ii.) that on Wednesday, the meeting commence at 11 a.m.

(7) On the motion of Sir Michael Foster, seconded by Prof. Rücker, it was resolved that English, French, German and Italian be the official languages of the Conference, but that it shall be open for any delegate to address the Conference in any other language, provided that he supplies for the *procès verbal* of the Conference, a written translation of his remarks into one or other of the official languages.

(8) Sir Michael Foster presented the Report of the Provisional International Committee, and it was resolved that the report be received.

(9) The following resolutions were then agreed to:—(i.) That the publication of a card catalogue be postponed for the present; (ii.) that the book catalogue be at first issued only in the form of annual volumes.

(10) Sir Michael Foster having moved (iii.) that the catalogue include both an authors' and a subject index, according to the scheme of the Provisional International Committee; Prof. Rücker thereupon explained the financial position, and the delegates of the various countries stated to what extent they were authorised to promise contributions towards the expenses of the catalogue. From these statements it appeared that subscriptions to 163 sets of volumes (or their equivalent) of the